



A systematic review of flipped classroom approaches in language learning

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Citation: Qi, P., Jumaat, N. F. B., Abuhassna, H., & Ting, L. (2024). A systematic review of flipped classroom approaches in language learning. *Contemporary Educational Technology*, 16(4), ep529. <https://doi.org/10.30935/cedtech/15146>

ARTICLE INFO

Received: 10 Jun 2024

Accepted: 27 Aug 2024

ABSTRACT

This systematic literature review aims to offer an in-depth analysis of the existing research landscape regarding the application of the flipped classroom approach within the domain of language learning. The investigators methodically selected and analyzed 57 papers from 656 documents using a systematic and rigorous approach to literature selection. Our findings demonstrate the significant international impact of this field, with contributions from many countries and districts as well as globally excellent academic institutions. This review examines multiple areas of research, including improving students' perceptions and attitudes in flipped classrooms, language proficiency, motivational factors, etc. In addition, the research methods employed were evaluated, with a particular emphasis on mixed methods which combined the quantitative method with the qualitative method. Even though the application of flipped classrooms in language learning has achieved some achievements, some limitations are obvious. The most notable are the problem of sample size, the difficulty of technology integration, the lack of teacher training, the singularity of language research, etc. The research gaps revealed in this literature review, indicate interesting possibilities for future research. The diversity of research languages, the multiplicity of research methods, the integration of advanced technologies, and intensive teacher training will be significant of the area focus. This systematic literature review not only enriches the existing knowledge system but also has the potential to the direction of the development of flipped classrooms in language learning.

Keywords: flipped classroom, language learning, systematic literature review, SLR

INTRODUCTION

The COVID-19 epidemic in 2020 has given rise to the development of blended learning, including the flipped classroom which reverses the traditional education class model to ensure the continuity of education (Barrios et al., 2022). The flipped classroom model is facilitated by the use of technology to deliver instructional content before the face-to-face classroom, such as through video lectures or online discussions to preserve in-class time for more interactive, engaged, and practical learning (Lee et al., 2017). Flipped classroom is adequate to be used in language learning as it offers student-centered way and collaborative learning, encouraging students to invest in foreign language learning and ultimately improve their speaking, listening,

writing, and reading abilities (Amiryousefi, 2019). Its adaptability and effectiveness in encouraging active learning make it a key asset for the future of language teaching, showcasing its potential to design more engaging and dynamic learning environments in the post-pandemic era and beyond (Guo, 2022).

Many studies identified the flipped classroom has considerable potential to enhance language skills such as students' writing skills (Lin, 2019), grammar proficiency (Amini et al., 2022), speaking fluency (Roohani & Etemadfar, 2021), pronunciation (Bin-Hady & Hazaea, 2021). Besides that, many studies have also shown that flipped classrooms also have a positive impact on students' psychological factors: students' anxiety and self-efficacy (Khosravi et al., 2023), students' satisfaction (Teng, 2017). However, it has been discovered that challenges and limitations were hindering the application of flipped classrooms. For instance, limited sample size and diversity (Namaziandost & Çakmak, 2020), technological issues (Lin, 2019), research method constraints (Kantamas, 2023), teacher training and support (Yang & Chen, 2020), long duration and longitudinal data (Li & Peng, 2022).

As a result, continually investigating improved flipped classroom methods is critical to advancing language learning. This review combines bibliometric techniques and a systematic literature review (SLR) to deeply analyze the application of flipped classrooms in language learning. The purpose of this study is to identify key contributors, major research areas, and commonly used research methods while revealing existing research gaps and proposing future research directions to guide future research and teaching methods, to meet the needs of learners in a changing educational environment after the COVID-19 pandemic.

From the methodology perspective, a large number of existing studies have been investigated in various fields of education through systematic literature reviews. For instance, Abuhassna et al. (2024) employed a systematic literature review combined with a bibliometric technique to explore the relationship between instructional design models and learning theories; Abuhassna and Alnawajha (2023a) comprehensively analyzed the instructional design through systematic literature review to identify the instructional design, Abuhassna and Alnawajha (2023b) used this method to deeply analyze the theory integration, research gaps and future agenda in the field of transactional distance theory (TDT) and distance learning contexts. Abuhassna et al. (2024) combined a systematic literature review and bibliometric analysis to explore the synergy between instructional design models and learning theories. The researcher of this study intends to use their methodology and carry out a comprehensive investigation into the domain of flipped classrooms in language learning.

To achieve this, the investigators formulated the research questions below:

Research Questions

- RQ1:** Which countries, institutions, authors, keywords, and years are most influential in the study of flipped classrooms in language learning?
- RQ2:** What in-class and out-of-class learning activities enhance language learning in flipped classrooms?
- RQ3:** What were the main research focuses in previous studies?
- RQ4:** What research tools and approaches were employed in previous studies?
- RQ5:** In which language-learning contexts was the flipped classroom method used in previous studies?
- RQ6:** Is there any limitation or challenge identified in previous studies?
- RQ7:** Is there any direction available for future research from previous studies?

By answering the research questions, the investigators aimed to identify the impact of the flipped classroom on language learning. The findings will provide a comprehensive overview for educators and researchers, helping create a more effective language learning environment in the post-pandemic era.

METHODOLOGY

This section outlines a systematic approach that was employed in this review to ensure a comprehensive and transparent process in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework.

Table 1. The inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Publication from 2013 to 2023	Publications before 2013 were not accepted, and as 2024 is not yet over, publications in 2024 were also not accepted
Papers only	Conferences, blogs, theses, and book chapters
Written in English	Any other languages
Subject area (social science, computer, and arts)	Any other subject area

Research Design

The present systematic literature review utilizes a methodical approach to the collection, evaluation, and synthesis of relevant research papers and publications. It strictly abides by all the rules outlined in the PRISMA framework (Moher et al., 2009).

Sources of Data

The first phase of PRISMA is identification. Scopus was chosen as the data source due to it is the most prominent and extensively utilized indexing organization in the world. This systematic literature review has thoroughly examined academic literature on current issues by using highly specific and restricted sets of keywords and search terms. The search for papers was started in April 2024, and the keywords “flipped classroom” and “language learning” were both utilized. After searching on Scopus, 656 papers were included in the first draft of this study.

Inclusion & Exclusion Criteria

Then, the inclusion and exclusion criteria were used to choose pertinent papers for this study from the original 656 papers. A combination of keywords and phrases implemented are shown as follows: TITLE-ABS-KEY (“flipped classroom” AND “language”) AND PUBYEAR > 2012 AND PUBYEAR < 2024 AND (LIMIT-TO (SUBJAREA, “SOC”) OR LIMIT-TO (SUBJAREA, “COMP”) OR LIMIT-TO (SUBJAREA, “ARTS”)) AND (LIMIT-TO (DOCTYPE, “ar”)) AND (LIMIT-TO (LANGUAGE, “English”)). Following the use of these criteria, 307 papers remained for additional analysis after 349 papers were removed.

In this stage, the investigators extracted the 307 papers. However, only 123 papers were obtained. Then the investigators did the first manual assessment for these 123 papers. After the first manual assessment, 36 papers were found to be inappropriate, leaving 87 items for retention. The publications that did not address language acquisition or that only discussed blended learning without mentioning flipped classrooms were excluded. During the last stage, 57 papers were retained, and 30 papers were excluded after a second round of manual evaluation was done on the original set of 87 papers. A lack of synergy between language learning and flipped classrooms was one of the reasons these thirty publications were excluded. So, in this study, 57 papers were used in the final analysis. **Table 1** contains the specific inclusion and exclusion criteria for this systematic literature review and **Figure 1** shows the PRISMA framework that was used for this study.

Data Collection & Synthesis

The final selection of papers underwent meticulous organization and manual management. Each paper was then systematically assessed for eligibility based on predetermined inclusion and exclusion criteria. Data extracted from these 57 chosen papers included publication year, authorship, research focus, methodologies employed, research tools, etc.

Quality Assessment

During the quality assessment process, the investigator did not merely read the publications’ content; instead, they followed a rigorous and methodical protocol. Each paper was thoroughly reviewed using specified criteria to verify its reliability and credibility. If a paper did not meet these standards, it was excluded from the study. The investigators also paid attention to the research design, methodology, data analysis, and conclusion of these papers. In addition, the source of the paper, peer review, and the impact factor are also concerns for the investigators. Due to this rigorous procedure, only the most reliable and relevant papers were included. At last, 57 high-quality papers were selected in the present study. This systematic selection process shows the high academic requirement, reliability, and credibility of this study.

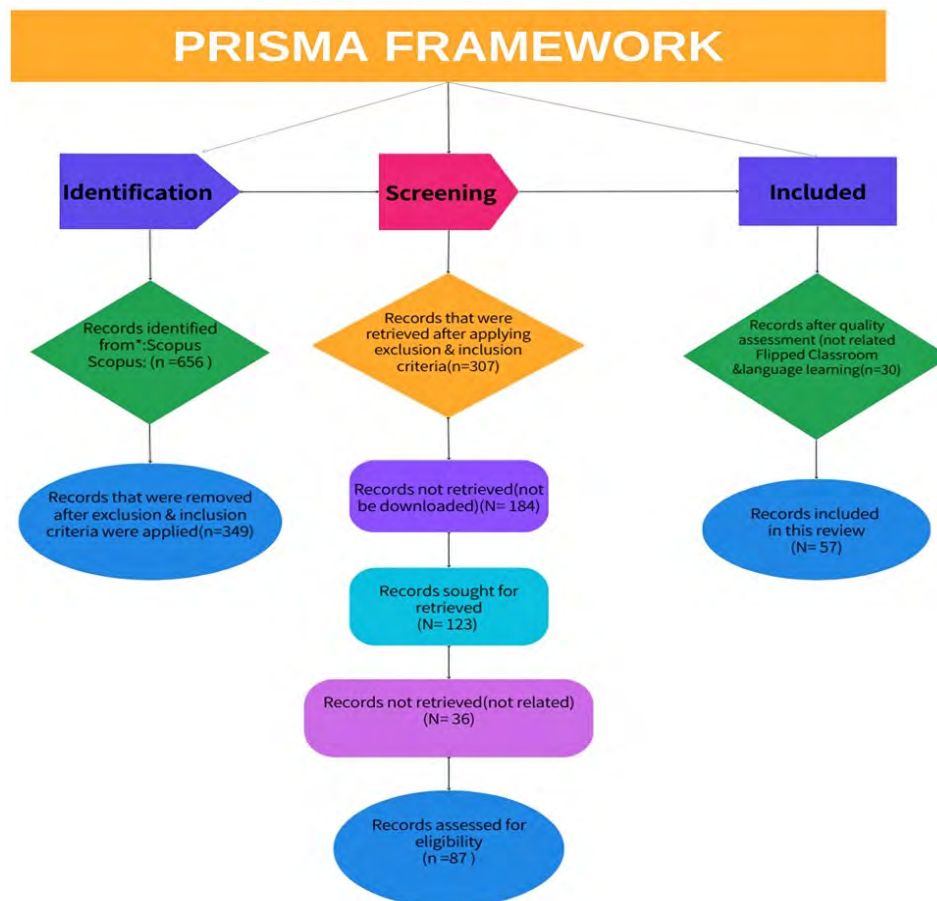


Figure 1. PRISMA framework for this review (Source: Authors)

Data Analysis & Synthesis

A narrative synthesis approach was implemented to identify and summarize the findings from these 57 papers, including the learning activities designed in flipped classroom, the research methods, the research field, the research gap, and recommendations related to flipped classrooms in language learning. This approach provides a comprehensive view of the current knowledge in this field.

Research Questions

The findings of this systematic literature review, from these 57 papers were used to answer the research questions outlined in the introduction part.

RESULTS

In this section, the investigators illustrate the significant findings of our research. Our study attempts to uncover the most influential contributors and identify the achievements and strengths of flipped classrooms in language learning. In the meantime, the investigators explore the limitations and challenges of this field and potential focuses and directions for future research. These findings are designed to afford an extensive view of the present prospect, emphasize the research gap, and shed light on the path for future research that hopes to enhance the effectiveness of flipped classrooms on language learning.

Which Countries, Institutions, Authors, Keywords, and Years Are Most Influential in the Study of Flipped Classrooms in Language Learning?

It is important to examine the most significant countries, educational institutions, authors, keywords, and publishing years in the field of flipped classrooms in language learning to map the research landscape and comprehend its evolution. Future research paths and cooperation might be facilitated by the insights this

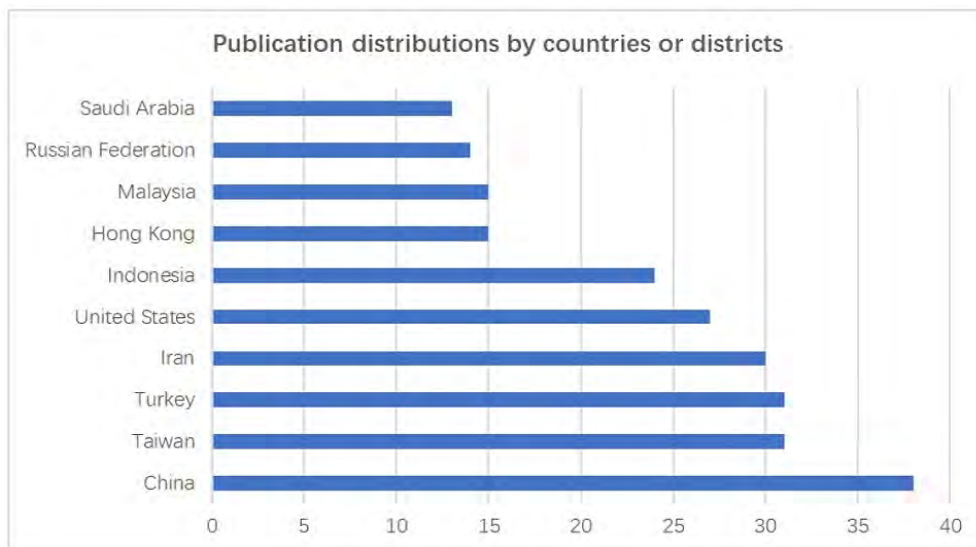


Figure 2. Publications distributions by countries or districts (Source: Authors)

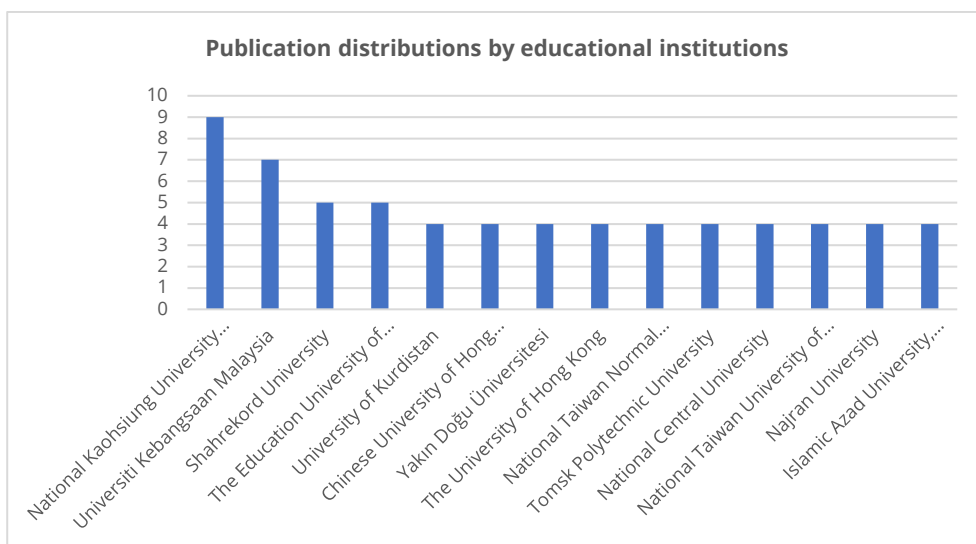


Figure 3. Publication distributions by educational institutions (Source: Authors)

study provides about global patterns, the distribution of knowledge, and rising areas of interest. To fill important gaps in the current understanding and improve pedagogical approaches in language education, researchers can identify important contributions and conceptual frameworks.

Publication distributions by countries or districts

Figure 2 shows the publication distributions by countries or districts, highlighting the areas with the most activity in flipped classroom and language learning research. China is far ahead of other countries, indicating that it is a key hub for this kind of study. There are also a lot of papers from Taiwan and Turkey, indicating robust research communities in those regions. Similar results are produced by Indonesia, Iran, and the United States, suggesting direct involvement. Hong Kong, Malaysia, Russia, Saudi Arabia, and other mentioned countries/districts have published less yet are nonetheless making contributions to the subject. **Figure 2** aids in understanding the worldwide concentration of study on this subject, with Asia receiving particular attention.

Publication distributions by educational institutions

Figure 3 illustrates the publication distributions by educational institutions on the topic of flipped classrooms in language learning. With the most publications, National Kaohsiung University is at the forefront,

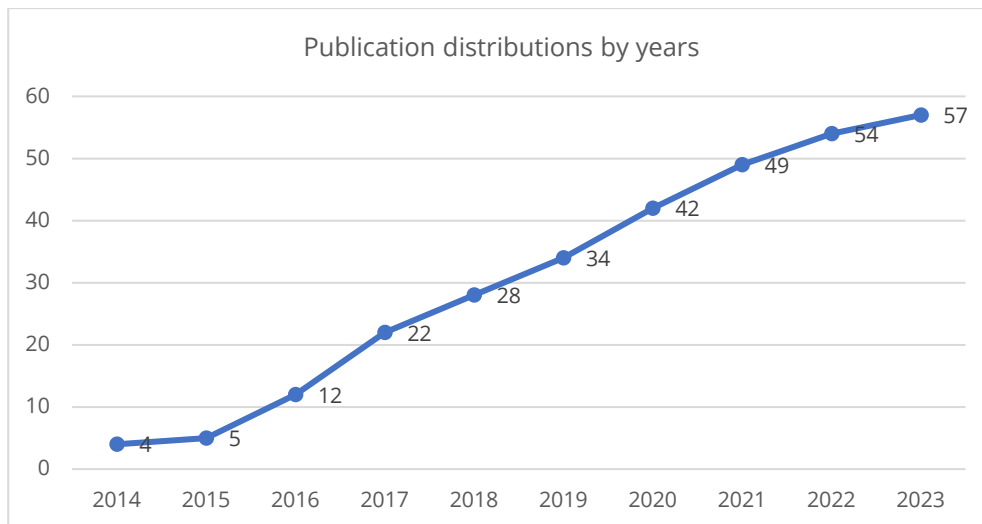


Figure 4. Publication distributions by years (Source: Authors)

demonstrating its stature in this field of study. The universities that come next, Shahrekord University and Universiti Kebangsaan Malaysia, both have notable academic output that demonstrates their strong interest in this area. Other academic institutions such as Yakin Doğu Üniversitesi, the Chinese University of Hong Kong, and The Education University of Hong Kong exhibit moderate publishing activity, indicating an active but less intense commitment to research. Even though they publish less frequently, organizations like Islamic Azad University Zanjan, Nanjing University of Information Science & Technology, National Taipei University of Technology, National Central University, and Tomsk Polytechnic University all add to the landscape of research. This distribution highlights possible collaborators for upcoming academic partnerships and assists in identifying the areas of substantial research on flipped classrooms in language learning.

Publication distributions by years

From **Figure 4**, the investigators can find that, from 2014 to 2023, this line graph displays a consistent rise in publications, suggesting a rising interest in a certain academic topic. From around 5 publications in 2014 to over 60 publications by 2023, the number increases annually. This pattern points to a persistent interest in the subject matter and an increasing awareness of its importance. This growing tendency, which reflects a dynamic and ever-evolving field of study, may be attributed to several factors including the emergence of new research topics, greater financing, and wider academic legitimacy.

Publication distributions by most used keywords

Figure 5 illustrates the most common keywords in flipped classrooms and language learning. From **Figure 5**, the investigators can conclude that flipped classrooms, the integration of technology, and active and collaborative learning strategies have become key components in the curricula of language learning in higher education institutions. Moreover, the presence of “gamification” and “simulation” implies an interest in how game-based learning and simulated settings might be employed in the flipped classroom to promote language learning. These trends are closely related to the modernization and globalization of global education, illustrating educators’ and researchers’ attempts to find effective methods of teaching in a constantly evolving educational setting.

What In-Class and Out-of-Class Learning Activities Enhance Language Learning in Flipped Classrooms?

In this section, the investigators will identify the learning activities designed in flipped classrooms for language learning. Flipped classrooms, which emphasize pre-class individual study ahead of in-class practice, discussion, and application, allow for more comprehensive language improvement. Identifying appropriate learning activities for flipped classrooms is critical for developing comprehensive language competency.



Figure 5. The most common keywords in flipped classroom and language learning (Source: Authors)

Researchers thoroughly examined and analyzed the 57 papers to investigate the design of flipped classroom learning activities in language learning. Throughout the research, they noticed differences in researchers' classification and design of flipped classroom circumstances. Some academics divided flipped classroom activities into two phases, with each phase focusing on students' knowledge acquisition through pre-class preparation and engagement, followed by in-class discussions and practical applications. Others divided flipped classroom activities into three phases: pre-class, in-class, and post-class, emphasizing the significance of consolidation, reflection, and extension after class. Among the 57 publications, 35 (Abdullah et al., 2019; Afrilyasanti et al., 2017; Alfaifi & Saleem, 2022b; Altas & Mede, 2020; Birová, 2019; Chen & Liu, 2019; Ekmekci, 2017; Fischer & Yang, 2022; Ghufron & Nurdianingsih, 2021; Hajebi, 2020; Kantamas, 2023; Kirmızı & Kömeç, 2019; Lee, 2017; Li & Li, 2022; Lin, 2019; Makruf et al., 2021; Mohammad & Khan, 2023; Namaziandost & Çakmak, 2020; Phoeun & Sengsri, 2021; Purwanti & Suryawati, 2022; Rad, 2021; Roohani & Etemadfar, 2021; Roohani & Rad, 2022; Shaari et al., 2021; Shi & Zhang, 2023; Singay, 2020; Soltanabadi et al., 2021; Sun, 2017; Suranakkharin, 2017; Teng, 2017; Wang et al., 2022; Yang & Chen, 2020; Yulian, 2021; Zou, 2020) studies classified flipped classroom learning activities into pre-class and in-class phases, accounting for 61.4% of the entire research, while 13 (Akayoğlu, 2021; Al-Jarrah et al., 2021; Amini et al., 2022; Bi et al., 2023; Chang & Lan, 2021; Diningrat et al., 2023; Duruk & Yılmaz, 2023; Hung, 2022; Li, 2022; Li & Peng, 2022; Parati et al., 2023; Wang, 2023; Zhou et al., 2023) papers divided them into pre-class, in-class, and post-class phases, accounting for 22.8% of the total. Specific pre-class, in-class, and after-class learning activities are summarized as follows:

Pre-class learning activities

Video watching: Students use platforms like Edmodo, YouTube, WeChat, QQ, and others to view instructional videos (Akayoğlu, 2021; Altas & Mede, 2020; Bi et al., 2023; Duruk & Yılmaz, 2023; Ekmekci, 2017; Fischer & Yang, 2022; Ghufron & Nurdianingsih, 2021; Hajebi, 2020; Kantamas, 2023; Li, 2022; Lin, 2019; Namaziandost & Çakmak, 2020; Rad, 2021; Roohani & Rad, 2022; Shaari et al., 2021; Shi & Zhang, 2023; Singay, 2020; Zou, 2020).

Online reading and assignments: Students complete the relevant online assignments after reading the teacher-provided materials (Al-Jarrah et al., 2021; Birová, 2019; Parati et al., 2023; Shaari et al., 2021; Wang, 2023).

Online quizzes and feedback: Take online tests and get feedback from professors using the following platforms (Amini et al., 2022; Anggoro et al., 2023; Bi et al., 2023; Hung, 2022).

In-class learning activities

Group discussions: Students discuss the material they studied outside of class in groups (Abdullah et al., 2019; Afrilyasanti et al., 2017; Anggoro et al., 2023; Chang & Lan, 2021; Chen & Liu, 2019; Li & Peng, 2022;

Makruf et al., 2021; Parati et al., 2023; Phoeun & Sengsri, 2021; Roohani & Etemadfar, 2021; Roohani & Rad, 2022; Sun, 2017; Teng, 2017; Wang et al., 2022; Yang & Chen, 2020; Zou, 2020).

Collaborative practices: Implement learned knowledge to engage in collaborative practice exercises such as role-playing and group games (Afrilyasanti et al., 2017; Makruf et al., 2021; Parati et al., 2023; Teng, 2017; Yang & Chen, 2020; Zou, 2020).

Feedback timely and instructional support continuously: Instructors give timely feedback based on students' responses and provide instructional support to help students master important concepts (Li & Peng, 2022; Lin, 2019; Rad, 2021; Roohani & Etemadfar, 2021; Yang & Chen, 2020).

Formation of students' higher-order thinking: Guide students to engage in critical thinking exercises and problem-solving exercises to develop their higher-order thinking skills (Anggoro et al., 2023; Chen & Liu, 2019; Sun, 2017).

Post-class learning activities

Online interactive exercises and feedback from instructors: Students employ technologies such as LINE to take part in online exercises, such as role-playing, and obtain feedback from instructors (Chang & Lan, 2021; Roohani & Rad, 2022).

Post-learning through social media: Online group discussion and assignment submissions through WhatsApp or other social media (Bi et al., 2023; Duruk & Yilmaz, 2023; Shaari et al., 2021).

Self-evaluation and peer evaluation: Students are involved in peer and self-evaluation based on their mastery of knowledge (Annamalai et al., 2021; Birová, 2019).

In conclusion, the analysis of 57 papers emphasizes the various learning activities implemented in the flipped classrooms. These include pre-class learning activities like video watching, online reading assignments; in-class learning activities such as group discussions and collaborative practices; and post-class learning activities like online interactive exercises and feedback from instructors, self-evaluation, and peer evaluation. These learning activities promote students' deep engagement and lead to better language mastery. To better understand the effectiveness of the flipped classroom model in language learning, it is necessary to look at the main research focuses in previous studies.

What Were the Main Research Focuses on Previous Studies?

In the following part, researchers will take a look at the research focuses that have been examined in previous studies. By examining the research focus in previous studies, researchers can gain a landscape of this subject, identify the strengths of the flipped classroom model, and explore the research gap for future work. This will be beneficial to the ongoing development of flipped classrooms in language learning.

The findings show that language learning in flipped classrooms covered a broad range of topics. The first topic is Student Foreign Language Learning Outcomes, with 17 of the 57 papers covering this area, which includes research on self-efficacy (Namaziandost & Çakmak, 2020), learning autonomy, higher-order thinking (Lin, 2019), writing skills (Altas & Mede, 2020; Ghuftron & Nurdianingsih, 2021; Lin, 2019; Mohammad & Khan, 2023), speaking fluency (Roohani & Etemadfar, 2021), grammar (Amini et al., 2022; Rad, 2021), pronunciation (Bin-Hady & Hazaea, 2021), communicative skills (Birová, 2019; Makruf et al., 2021), and vocabulary acquisition (Kırmızı & Kömeç, 2019; Li, 2022), reading comprehension (Alfaifi & Saleem, 2022b), academic abilities and responsibility (Liu et al., 2023), critical thinking (Yulian, 2021).

The second important topic is Student Attitudes and Perceptions, in which researchers investigate how students perceive the flipped classroom model and their views toward specific teaching techniques, with 20 of the 57 papers covering this area. This topic is especially interesting in studying student engagement and the acceptability of novel teaching approaches. For example, Kantamas (2023), Roohani and Rad (2022), and Hung (2022) researched students' attitudes and perceptions towards the flipped classroom, while Zou (2020) aimed to identify students' attitudes on gamified flipped EFL classroom, and Khosravi et al. (2023) on metacognitive strategy-based flipped classroom.

Four of the 57 papers addressed student motivation and engagement (Abdullah et al., 2019; Fischer & Yang, 2022; Shaari et al., 2021; Teng, 2017). To explore the motivational aspects of learning and student

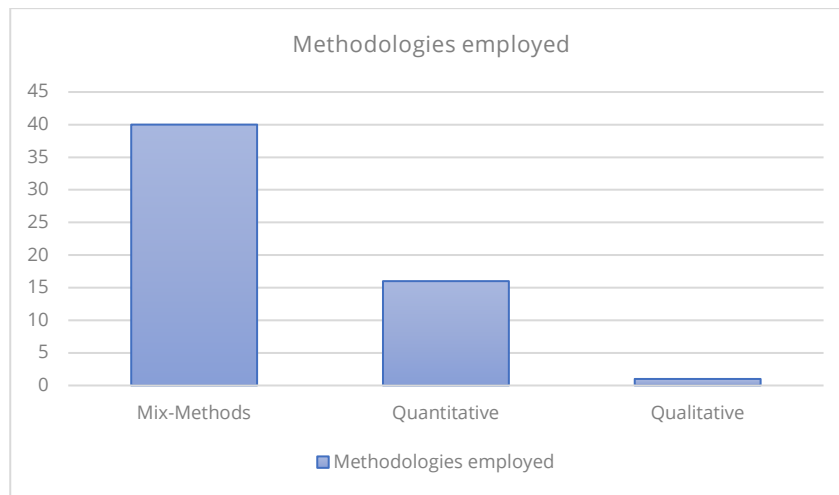


Figure 6. Methodologies employed (Source: Authors)

engagement levels in a flipped classroom environment, and to identify important factors for student engagement and participation in the learning process.

Overall, these research focuses provide a thorough overview of the impact of the flipped classroom model on language learning. The next part will be dedicated to the research tools and approaches employed in the flipped classrooms for language learning.

What Research Tools and Approaches Were Employed in the Previous Studies?

According to the results presented in **Figure 6**, mixed research methodologies are predominant. 70.17% (n = 40) of the publications were published utilizing mixed research methodologies, including Roohani and Rad (2022) implemented open interviews and pre- and post-tests, Hung (2022) used a descriptive survey design of online questionnaires, Birová (2019) employed standardized tests and observation diaries. The most popular mixed approaches include pre- and post-tests, as well as semi-structured interviews. In this literature using mixed research methods, the investigators can conclude that the authors often use quantitative research to measure students' learning effects, while qualitative research is used to measure students' attitudes and acceptance.

In addition, 28.07% (n = 16) of the analyzed papers used quantitative methodologies over qualitative ones. Pre- and post-tests were the mostly the most commonly used quantitative methods. Other methods included the following: Namaziandost and Çakmak (2020) used a self-efficacy scale, Parati et al. (2023), Rad (2021) implemented a questionnaire, Mohammad and Khan (2023), assessment checklist, Hajebi (2020), a supporting package plan, Fischer and Yang (2022), online quiz scores, and final course grades, Duruk and Yılmaz (2023), self-regulated learning scale, Al-Jarrah et al. (2021), an achievement test and a trend scale, Khosravi et al. (2023), proficiency test, second language writing scale (SWS), self-efficacy in writing scale, second language writing anxiety inventory. **Figure 6** illustrates the different research methodologies utilized in the examined papers.

In Which Language-Learning Contexts Was the Flipped Classroom Method Used in Previous Studies?

Among the 57 selected papers, research on the English language dominates, with 92.98% (n = 54) of the papers being about English research. The research fields are very wide, including Namaziandost and Çakmak (2020), students' self-efficacy and gender, Lin (2019), students' learner autonomy and high-level thinking skills, students' English writing skills, Teng (2017), students' academic performance and satisfaction, and Wang (2023), EFL learners' motivation level in English-speaking performance, etc. Only 3.5% (n = 2) of the papers are about Japanese language learning, 1.7% (n = 1) of the papers are about Chinese learning, and one is about Indonesian language learning. **Figure 7** depicts the language-learning context distribution.

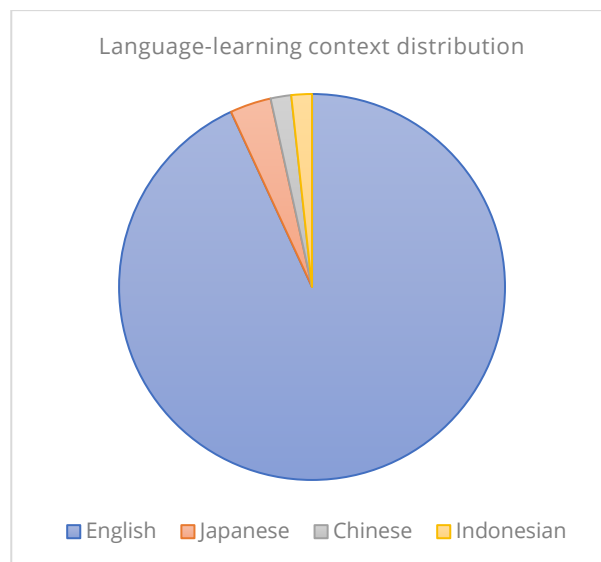


Figure 7. Language-learning context distribution (Source: Authors)

Is There Any Limitation or Challenge Identified in Previous Studies?

Although flipped classrooms have achieved positive effects on language learning, it has significant limitations and challenges that need to be considered, such as constrained sample sizes, dependence on a single research approach, and technical difficulties. Furthermore, the requirement for teacher training and the adaptation of instructional support to guarantee effective implementation is emphasized. It is necessary to recognize these limitations that will impact the course of future research, encourage diversity in methodology, and lead the development of initiatives to enhance the effectiveness of the flipped classroom in language learning contexts.

Limitations and challenges

Constraint of sample size: Many studies, such as Afrilyasanti et al. (2017), Afzali and Izadpanah (2021), Akayoğlu (2021), Al-Jarrah et al. (2021), Altas and Mede (2020), Amini et al. (2022), Bin-Hady and Hazaea (2021), Chang and Lan (2021), Diningrat et al. (2023), Ekmekçi (2017), Ghuftron and Nurdianingsih (2021), Khosravi et al. (2023), Kırmızı and Kömeç (2019), Li (2022), Li and Li (2022), Li and Peng (2022), Lin (2019), Liu et al. (2023), Namaziandost and Çakmak (2020), Phoeun and Sengsri (2021), Purwanti and Suryawati (2022), Rad (2021), Roohani and Etemadfar (2021), Roohani and Rad (2022), Shaari et al. (2021), Singay (2020), Soltanabadi et al. (2021), Suranakkharin (2017), Teng (2017), Wang et al. (2022), Yang and Chen (2020), Yulian (2021), Zou (2020), has shown that the constraint of sample size will affect the generalizability of the results.

Technological issues: Numerous academic studies, Bi et al. (2023), Ghuftron and Nurdianingsih (2021), Hung (2022), Lin (2019), Shi and Zhang (2023), Wang (2023), and Zou (2020), have found that technological hurdles and difficulties in flipped classrooms have been shown to greatly alter students' levels of engagement and enthusiasm for learning.

Research method constraints: As pointed out in Alfaifi and Saleem (2022a), Amini et al. (2022), Anggoro et al. (2023), Bin-Hady and Hazaea (2021), Kantamas (2023), and Roohani and Rad (2022), dependence on certain research procedures, such as questionnaires, interviews, or observations, might limit the range of data obtained and the diversity of different points of view gained.

Cultural and contextual limitations: Studies with specific cultural or educational contexts are often conducted (Bin-Hady & Hazaea, 2021; Diningrat et al., 2023; Ekmekçi, 2017; Ghuftron & Nurdianingsih, 2021; Kantamas, 2023; Lin, 2019; Liu et al., 2023; Makruf et al., 2021; Namaziandost & Çakmak, 2020; Parati et al., 2023; Shaari et al., 2021; Shi & Zhang, 2023; Teng, 2017; Zou, 2020). Therefore the generalizability of the results may differ depending on the setting. This contextual limitation highlights the importance of considering different socio-cultural, institutional, and pedagogical aspects that may affect the transferability of findings to educational contexts.

Duration and longitudinal data: Drawing on studies of Diningrat et al. (2023) and Li and Peng (2022), it is clear that short-term studies may not completely reflect the overall impact of the flipped classroom approach, highlighting the importance of longitudinal research.

The challenges of instructional design: In flipped classrooms, students can only achieve effective learning outcomes through systematic instructional design, organization and execution, and continuous support by teachers (Chen & Liu, 2019). In the flipped classroom, instructional design is a key component, including clear teaching goals, systematic teaching organization, timely instructional feedback, and continuous instructional support.

In conclusion, the implementation of flipped classrooms for language learning has numerous challenges. By addressing these challenges, it is crucial to improve the effective implementation of the flipped classroom for language learning.

Is There Any Direction Available for Future Research From Previous Studies?

Language learning is an exciting field with many opportunities for innovation and research. This is consistent with the flipped classroom approach. Based on this review, the investigators conclude the recommendations for future research, including broadening the research scope, enriching the research tools, increasing the sample size, strengthening technology integration, and extending the duration of the study. These steps will help further develop and refine the flipped classrooms for language learning.

Expand the scope of research: Many studies such as Chang and Lan (2021), Shaari et al. (2021), and Parati et al. (2023) highlighted the need for future research to expand the sample size and diversify the students by including students from a range of disciplines and topic areas as well as students of diverse ages, genders, and cultural backgrounds.

Strengthen technology application and teacher training: Several papers, like Annamalai et al. (2021), Hung (2022), Lee (2017), Lin (2019), Teng (2017), Wang et al. (2022), and Zou (2020) emphasized how crucial it is to give instructors the necessary technical assistance and training so they can use technology tools to their full potential and advance personalized learning systems at the same time.

Examine long-term impacts and multidisciplinary uses: According to several studies Abdullah et al. (2019), Alfaifi and Saleem (2022a), Bin-Hady and Hazaea (2021), Chang and Lan (2021), Diningrat et al. (2023), Fischer and Yang (2022), Li and Peng (2022), Parati et al. (2023), Phoeun and Sengsri (2021), Shaari et al. (2021), and Singay (2020), long-term study should be done to determine the long-term effects of the flipped classroom on students' academic performance and language proficiency. They also suggested testing its application in a variety of courses to evaluate how well it performs in other academic fields.

Research instruments and methods: The studies of Afrilyasanti et al. (2017), Akayoğlu (2021), Amini et al. (2022), Ghufuron and Nurdianingsih (2021), Khosravi et al. (2023), Li and Peng (2022), Mohammad and Khan (2023), Purwanti and Suryawati (2022), Shaari et al. (2021), Shi and Zhang (2023), Suranakkharin (2017), and Yang and Chen (2020) suggest that mixed-method approaches can be employed in future research. This method, which combines qualitative data with quantitative data can ensure a thorough comprehension of the study.

Examine social and cultural difference: Research of Afrilyasanti et al. (2017), Alfaifi and Saleem (2022b), Annamalai et al. (2021), Ekmekçi (2017), Li (2022), Liu et al. (2023), Phoeun and Sengsri (2021), Sun (2017), Teng (2017), Widyaningrum et al. (2020), and Yulian (2021) suggested recognizing the impact of social and cultural diversity on the perception of the flipped classroom approach and its applicability in various settings. Overall, the investigators should pay more attention to social influences and individual differences in future research in this field.

DISCUSSIONS

The information technology has influenced the field of education. The implementation of flipped classrooms in language learning has received a lot of attention. This innovative pedagogical approach has completely transformed language learning. This review offers an in-depth analysis of the effect of the flipped classroom on language acquisition. Based on this review, it hopes to identify significant insights that answer

seven essential research questions. These questions provide a foundation between the flipped classroom and language learning.

Our investigation first identified the most principal contributor to flipped classrooms in language learning. The following section shows countries or districts, educational institutions, and years of publication that played an important role in shaping this field, as well as the most commonly used keywords.

RQ1: Which Countries, Institutions, Authors, Keywords, and Years Are Most Influential in the Study of Fcs in Language Learning?

Our research revealed significant findings across various categories regarding the integration of flipped classroom approaches with language learning. This field of study exemplifies a diversified worldwide partnership. China emerges as the frontrunner, with 38 publications, highlighting its critical significance. Turkey and Taiwan follow closely behind with 31 papers each underlining their significant contributions. Furthermore, countries or districts such as Iran, the United States, Indonesia, Hong Kong, Malaysia, the Russian Federation, and Saudi Arabia have achieved tremendous progress, demonstrating the extensive global interest and different viewpoints that are driving educational innovation. Second, academic institutions have contributed significantly to the growth of this discipline. National Kaohsiung University of Science and Technology is noteworthy for its nine publications. Universiti Kebangsaan Malaysia and Shahrekord University both give seven papers, with The Education University of Hong Kong providing five. A global network of universities, including the University of Kurdistan, Chinese University of Hong Kong, Yakin Doğu Üniversitesi, The University of Hong Kong, National Taiwan Normal University, and Tomsk Polytechnic University, has created a significant amount of work. This emphasizes the collaborative and worldwide character of research in this area.

The distribution of publication years indicates a strong trend of rising papers on merging flipped classrooms with language learning between 2014 and 2023. Starting with only four publications in 2014, the number rapidly increased, reaching 12 by 2016 and 22 in 2017. By 2023, the number of publications related to flipped classrooms in language learning peaked at 57, indicating increasing interest among researchers in its effectiveness and demonstrating continued innovation and development in this field. Research on flipped classrooms in language learning covers many aspects, including teaching strategies, technology integration, student engagement, and learning outcomes. These closely related areas provide a comprehensive approach to improving language learning in higher education. The COVID-19 pandemic has further highlighted the importance of flipped classrooms, as the shift to e-learning accelerates the application of new teaching methods and technological resources. This adaptability not only maintained educational continuity throughout the pandemic but also demonstrated the huge potential of flipped classrooms to significantly improve the learning outcome in language.

Next, the investigators will explore what learning activities can be used in flipped classrooms to improve language proficiency.

RQ2: What In-Class and Out-of-Class Learning Activities Enhance Language Learning in Fcs?

In flipped classrooms, language learning activities design demonstrates a variety of ways to promote language learning. Most of the studies reviewed divided flipped classrooms into three phases: pre-class, in-class, and post-class, and there are also relevant strategies to enhance language acquisition in each phase.

The pre-class phase focuses on preparation exercises that will build the groundwork for in-depth study in class. Watching videos is the primary strategy of the flipped classroom's pre-class phase, with popular platforms including Edmodo, YouTube, and WeChat. This phase employs multimedia tools to accommodate various learning styles, allowing students to grasp the material at their own pace. Furthermore, online reading assignments and quizzes let students consolidate their knowledge and monitor their progress, fostering self-directed learning.

During the in-class phase, the investigators focus on applying pre-class knowledge to resolve problems. Group discussions help students learn, share views, and build knowledge. Activities like games and role-playing boost engagement and practical language use. Teachers offer timely feedback to correct

misunderstandings and improve performance. Additionally, higher-order thinking tasks foster critical thinking and deep learning.

During the post-class phase, learning is continued via digital technology. Peer and self-assessment promote reflection and metacognitive awareness, allowing students to better control their learning progress. In addition, online dialogues and debates help to apply language skills in real-life situations, thereby improving communication skills and promoting cross-cultural understanding.

All of these learning activities demonstrate just how language learning can be designed in a flipped classroom. Instructors can vary what students do pre-class, in-class, and post-class to create a dynamic learning environment that meets the requirements of each student. However, for flipped classrooms to be successful, it's critical to comprehend lesson plans, technology integration, and student motivation all these factors together. Scholars ought to continue investigating the specifics of how these courses might be improved and how they support students' language proficiency over time. This will contribute to the future improvement and creativity of language acquisition.

These learning activities lead to effectively enhanced language acquisition in the flipped classroom context. By optimizing these learning activities of pre-class, in-class, and post-class, instructors should create an engaging and dynamic learning environment to support language acquisition.

RQ3: What Were the Main Research Focuses on Previous Studies?

In educational research, integrating language learning with the flipped classroom approach has long been a popular issue. According to this systematic review of the literature, contemporary research has concentrated on enhancing a variety of language abilities and learning objectives. The benefits of flipped classrooms for enhancing writing abilities, conversational fluency, grammar, and vocabulary have been repeatedly shown by research. Further research is needed to fully understand the long-term impact of flipped classrooms on language learning and its role in intercultural communication skills and comprehension.

In addition, through the analysis of research in this field, it was found that most studies focused on students' attitudes and opinions on flipped classrooms. The results showed that students mostly held a positive attitude toward flipped classrooms. However, it is worth considering that students' learning needs are different. In addition, students' autonomous learning abilities are also different. Therefore, flipped classrooms need to reflect more flexible and personalized learning methods.

Thirdly, the effectiveness of flipped classrooms also depends on students' motivation and engagement. While this approach may promote higher levels of student engagement, further exploration is needed into the motivational aspects and the important factors that contribute to student engagement in this teaching model.

Overall, while the flipped classroom provides a valuable platform for language learning, the investigators need to conduct a comprehensive and critical evaluation of its application. Future research must focus on addressing the diverse needs of learners, the strategic use of technology, and the use of effective teaching strategies to truly improve language learning outcomes. The investigators need to continuously improve teaching methods to better serve all students and advance the development of language education pedagogy.

Following this, the investigators will identify the research tools and approaches employed in the previous studies.

RQ4: What Research Tools and Approaches Were Employed in the Previous Studies?

After analyzing the research methods of this systematic literature review, it was found that researchers are more inclined to use mixed methods in flipped classroom language learning research. This method applied in 70.17% of the, combines quantitative data from pretests and posttests with qualitative data from interviews and observation diaries. This reflects researchers' efforts to capture quantifiable learning outcomes and qualitative data on student experiences. The remaining studies tended towards quantitative approaches, emphasizing the importance of quantitative evidence through standardized tests and self-efficacy scales. The diversity of assessment tools demonstrates researchers' efforts to comprehensively assess language proficiency from multiple perspectives. However, this methodological breadth also creates challenges in integrating disparate data types and requires the use of complex analytical techniques. The

current state of research suggests that future research is needed to improve these mixed methods, develop new assessment tools, and explore the long-term teaching impacts of flipped classrooms in different educational settings. This balanced perspective is critical to advancing understanding of the effectiveness of flipped classrooms in language learning.

Next, the investigators identify the language learning environment of flipped classrooms in previous studies.

RQ5: In Which Language-Learning Contexts Was the Flipped Classroom Method Used in Previous Studies?

Through the analysis of the systematic literature review, it was found that researchers place a significant emphasis on English learning in flipped classrooms, with 92.98% of the selected papers focusing on English. This dominance shows that flipped classrooms have been deeply explored in the context of English learning, but there is a clear gap in research on other languages. The research covers a wide range of topics including self-efficacy, learner autonomy, thinking skills, writing ability, and student motivation, demonstrating a deep but narrow inquiry into English language teaching methodology. Research on Japanese, Chinese, and Indonesian language learning is scarce (3.5%, 1.7%, and 1 study, respectively), which points to opportunities for future work to expand the scope of research and explore the applicability of flipped classrooms in different language environments.

Finally, the investigators turn the focus to the limitations and challenges in the literature and identify future research directions for flipped classrooms in language learning.

RQ6 & RQ7: Is There Any Limitation or Challenge Identified in Previous Studies? & Is There Any Direction Available for Future Research From Previous Studies?

Although the application of flipped classrooms in language learning is innovative, it also faces a series of limitations and challenges, which must be addressed to promote its effective integration into educational practice and thereby improve learning outcomes. Of all the issues, the most frequently mentioned one is the issue of generalizability. This is because the sample sizes used in many studies are small and often not replicated. This does not make the findings less generalizable, and also affects the applicability of flipped classrooms to other populations and educational settings.

Secondly, technical difficulties are another major challenge. It will greatly affect the teaching effect. Therefore, teachers and students need to work together to improve digital skills. To successfully overcome these issues, a comprehensive plan for integrating educational technology must be developed.

Moreover, a more thorough knowledge of students' learning processes and learning outcomes in flipped classrooms can be attained by utilizing a variety of research approaches, which can offer a richer and wider perspective on language learning.

For an effective flipped classroom, teacher training and instructional support are necessary. Educators must learn a variety of teaching techniques, manage problems such as limited resources and individual diversity, and use technological resources to create appealing courses. Providing instructional support assists students in resolving practical issues, ensuring the effectiveness of flipped classrooms, and enhancing language learning outcomes. Overcoming these challenges allows educators to adapt to changing educational contexts and satisfy all the needs of their students.

This systematic literature review aims to provide a comprehensive understanding of the current knowledge, gap, and landscape of flipped classrooms in language learning. By addressing these key issues, the investigators try to provide recommendations and suggestions that can affect the research and implementation in this field.

CONCLUSION

This literature review combines bibliometric analysis with systematic literature review, to reveal the current status of research on flipped classrooms in language education. Our review includes geographical distribution, academic institutions, and publication years. The findings revealed that China, Turkey, and

Taiwan have shown their prominent position in this field. In addition, the National University of Malaysia, and the National Kaohsiung University of Science and Technology have also made great contributions to this field. Third, the number of papers increased significantly between 2014 and 2023, indicating that flipped classrooms for language learning continue to stimulate researcher's interest. Moreover, COVID-19 is another factor in promoting the development of flipped classrooms.

Learning activities in flipped classrooms are divided into three phases: pre-class, in-class, and post-class. There are strategies related to ensuring the learning outcomes, for example, lecture videos in the pre-class, interactive tasks in class, and self-evaluation or peer evaluation in post-class. This review also analyzed the research focus of flipped classrooms in language learning, such as writing, comprehension, grammar, and vocabulary. In addition, this review emphasized students' attitudes, motivations, and engagement toward flipped classrooms. Moreover, several research gaps and possible directions for further research were also identified. For example, Small sample sizes limit the generalizability of the findings. Therefore, the demographic groups and the duration of research need to be extended to get more accurate results. Most research (92.98%) focused on the English language, but few studies on Japanese, Chinese, and Indonesian, suggest that future research should examine flipped classrooms in different languages. Considering the research method, the mixed method is a suggested research method to ensure a comprehensive understanding of the effectiveness of flipped classrooms for language learning.

Future research should concern digital literacy and technology integration, which are necessary for the successful adopt the flipped classroom. In addition, enhancing teacher training and instructional support, with a focus on flexible and culturally sensitive instructional designs is essential to optimize the flipped classroom for language learning.

By following these recommendations, future studies will improve the implementation of flipped classrooms for language learning, creating a more engaged, dynamic, and effective learning environment for language learners.

Author contributions: All authors were involved in collecting, analyzing the data, writing the first draft and agreeing on the final draft. All authors approved the final version of the article.

Funding: The authors received no financial support for the research and/or authorship of this article.

Ethics declaration: The authors declared that this manuscript was an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained. The authors further declared that the study did not require approval from an ethics committee since it is based on existing literature.

Declaration of interest: The authors declare no competing interest.

Data availability: Data generated or analyzed during this study are available from the authors on request.

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